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[54] SEMICONDUCTOR DEVICE WITH
IMPROVED BOND PADS

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[58] Field of Search 257/786, 760,
257/775, 784, 766, 780

[56] References Cited

U.S. PATENT DOCUMENTS

5,053,850	10/1991	Baker et al.	257/786
5,248,903	9/1993	Heim	257/780
5,373,111	12/1994	McClure et al.	174/250

FOREIGN PATENT DOCUMENTS

63-161634	7/1988	Japan	257/786
6-37135	2/1994	Japan	257/786

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[57] ABSTRACT

A semiconductor device with improved bond pads. The semiconductor device includes bond pads electrically connected to an active circuit in the device and openings formed in the bonding surface of the bond pads. The opening(s) may include recesses extending partially into the bonding surface or channels that extend entirely through the bond pads. Various shapes and configurations of the openings may be used, such as a pattern of channels radiating from the center of the bonding surface, a series of spaced apart rectangular channels arranged parallel to one another, an array of L shaped channels arranged around the center of the bonding surface, or an array of holes.

16 Claims, 5 Drawing Sheets